

## REMARKS

This Response is submitted in reply to the Office Action dated October 30, 2007, and in conjunction with the enclosed Request for Continued Examination. Claims 102, 154, 168 and 171 are in independent form. Claims 102-103, 105-109, 114, 117, 120, 123, 125, 154, 159-162, 165, 167-169 and 171 are hereby amended. No new matter has been added by such amendments. Please charge Deposit Account No. 02-1818 for any amounts due.

### **1. Claim Rejections – 35 U.S.C. § 112**

The Office Action rejected claims 102-126, 154, 158-165, 167-169 and 171-175 under 35 U.S.C. § 112 as failing to comply with the written description requirement.

The Office Action stated there is no proper support for the “third electrode” as claimed. The Office Action stated that the abstract defines that a third electrode is upstream from a first electrode while a trailing electrode is downstream from a second electrode. Applicant respectfully disagrees with, and traverses, such rejection at least for the following reasons.

While the specification may have referred to an upstream electrode in one embodiment as a “third electrode,” Applicant has used the term “third electrode” in the claims as a matter of clarity because the claims also include first and second electrodes. Applicant submits that the “downstream” element associated with the third electrode, as claimed, clarifies the difference between the “third electrode” expressly referenced in the specification and the “third electrode” set forth in the claims. Support for this matter is located at least in paragraph [0083] and Figures 4A to 4B of the application as filed. Nonetheless, in accordance with the Office Action’s suggestion, Applicant has amended such claims to advance prosecution of this application.

The Office Action stated that at least claims 105-106 contradict independent claim 1[02] [sic]. Specifically, the Office Action stated, “. . . claims 105-106 recite the third electrode to collect and neutralize the charged particles in the air, which contradict claim 1[02] [sic], which recites the third electrode to generate ions.” Applicant

respectfully disagrees with, and traverses, such rejection for at least the following reasons.

Applicant submits that the claimed third electrode can be configured to generate ions, and can be configured to collect and neutralize the charged particles at the same time. Support for this configuration can be found in the Specification, for example, as follows:

- (a) “The trailing electrode can assist in neutralizing the amount of ions exiting this embodiment of the invention, and can further assist in collecting ionized particles.” (Specification, Page 6, Paragraph [0036]);
- (b) “When the trailing electrodes 245 are electrically connected to the high voltage generator 170, the positively charged particles within the airflow are also attracted to and collect on, the trailing electrodes.” (Specification, Page 29, Paragraph [00119];
- (c) “Thus, the trailing electrodes 245 serve as a second surface to collect the positively charged particles. The trailing electrodes 245 also can deflect charged particles toward the second electrodes.” (Specification, Page 29, Paragraph [00119]; and
- (d) “The trailing electrodes 245 preferably also emit a small amount of negative ions into the airflow. These negative ions will neutralize the positive ions emitted by the first electrodes 232.” (Specification, Page 29, Paragraph [00120];

Accordingly, Applicant submits that such dependent claims do not contradict such independent claims.

## **2. Claim Rejections – 35 U.S.C. § 102**

The Office Action rejected claims 102-109, 113-114, 117, 119-126, 154, 158-162, 164-165, 169 and 171-175 under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 5,215,558 to Moon (“Moon”). Applicant refers to previously presented claims 102-109, 113-114, 117, 119-126, 154, 158-162, 164-165, 169 and 171-175 in the Office Action

dated August 7, 2007 as "Prior Claims." Applicant respectfully disagrees with, and traverses, such rejection.

The Office Action stated that Moon teaches "an array of accelerating electrodes 3 interposed between the second electrodes and partially downstream from the second electrodes." Prior Claims 102, 154, 169 and 171 recite the following, "a third electrode . . . at least partially downstream from the second electrode, the third electrode generating ions." Applicant submits that Moon does not disclose such elements. Applicant submits that Moon teaches away from the notion of configuring the accelerating electrodes 3 downstream with the collector electrodes 2, because the accelerating electrodes 3 have the same polarity as the ionizing electrodes 1. In other words, since the accelerating electrodes 3 in Moon have the same charge as the emitter electrodes 1, they would not perform their function of repelling the charged particles toward the dust collectors 2, if the accelerating electrodes 3 were placed downstream from the collectors 2. In addition, since the accelerating electrodes 3 have the same polarity of the emitter electrodes 1, the electrodes 3 would further ionize the particles already charged by the emitter electrodes 1. This teaches away from the claimed subject matter. Further, placing the accelerating electrodes 3 directly downstream of the collector electrodes could inhibit some of the air flow due to the tendency of the particles charged to flow back upstream against the air flow, toward the collector electrodes.

#### **4. Amendments**

Despite such traversal, Applicant has amended independent claims 102, 154, 169 and 171 to advance the prosecution of this application. Independent claims 102, 154, 169 and 171 recite, among other elements, "a trailing electrode . . . at least partially downstream from the second electrode . . . ."

Support for these amendments can be found in the Specification, for example, in at least paragraphs [0018] – [00121] and Figures 10A-10C of the application as filed.

Further, despite such foregoing traversal, Applicant has amended at least dependent claims 105 and 106 to advance the prosecution of this application. For

example, dependent claim 105 recites, among other elements, “the trailing electrode is configured to assist in a collection of charged particles in the air.” Dependent claim 106 recites, among other elements, “the trailing electrode is configured to assist in a neutralization of oppositely charged particles in the air.”

Support for this configuration can be found in the Specification, for example, as follows:

- (a) “The trailing electrode can assist in neutralizing the amount of ions exiting this embodiment of the invention, and can further assist in collecting ionized particles.” (Specification, Page 6, Paragraph [0036]);
- (b) “When the trailing electrodes 245 are electrically connected to the high voltage generator 170, the positively charged particles within the airflow are also attracted to and collect on, the trailing electrodes.” (Specification, Page 29, Paragraph [00119];
- (c) “Thus, the trailing electrodes 245 serve as a second surface to collect the positively charged particles. The trailing electrodes 245 also can deflect charged particles toward the second electrodes.” (Specification, Page 29, Paragraph [00119]; and
- (d) “The trailing electrodes 245 preferably also emit a small amount of negative ions into the airflow. These negative ions will neutralize the positive ions emitted by the first electrodes 232.” (Specification, Page 29, Paragraph [00120];

Accordingly, Applicant submits that the Specification provides express support for the elements added by such claim amendments. Alternatively, Applicant submits that the Specification provides implicit or inherent support for the addition of such elements.

## **5. Claim Rejections – 35 U.S.C. § 103**

The Office Action rejected claims 109-112, 116, 118, 163 and 168 under 35 U.S.C. 103(a) as unpatentable over Moon. Applicant respectfully submits that claims 109-112, 116, 118, 163 and 168 are patentably distinguished over Moon for reasons

similar to those submitted with respect to claims 102 and 171 and are in condition for allowance.


For all of the reasons provided above, Applicant submits that the claims are in condition for allowance.

Applicants have made an earnest endeavor to place this application in condition for allowance, and such allowance is courteously solicited. If the Examiner has any questions related to this Response, Applicant respectfully requests that the Examiner contact the undersigned.

Respectfully submitted,

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